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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,385	02/15/2002	Roy James Askeland	14531.132	5665
47973	7590	02/04/2005	EXAMINER	
WORKMAN NYDEGGER/MICROSOFT 1000 EAGLE GATE TOWER 60 EAST SOUTH TEMPLE SALT LAKE CITY, UT 84111			DATSKOVSKIY, MICHAEL V	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077,385

Applicant(s)

ASKELAND ET AL.

Examiner

Michael V Datskovskiy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,9-26,31 and 33-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-5,7,9-26,31 and 33-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 04/29/2004 have been fully considered but they are not persuasive. First: Regarding "Functional" limitations of claims 6 and 28: claims are canceled, hence, arguments are moot. However, because applicant actually moved the limitations of these claims in the amended independent claims 1 and 26, examiner has to point out the following: The amended claims comprise a variety of optimum ranges of fan characteristics like: "low operational velocity", low acoustic signature of less than 36dB", or size of a diameter, along with claiming their functional interdependence, such as: "the acoustic signature being proportional to the operational velocity" and "diameter that is configured in size to cool at least one processor at the low operational velocity". These limitations were rejected previously as being obvious to one ordinary skilled in that art, since it has been held that discovering the optimum or workable ranges involves only routine skill in the art. In the Arguments applicant has not provided any proof of an unexpected results of chosen fans characteristics. It is inherent and well in the art that cooling capacity, speed and diameter of a fan are functionally interdependent and that the higher is speed of the fan the bigger is noise produced by the fan and by air movement. (See The Official Notice below). Second: regarding the height of the housing: nowhere in the rejections examiner stated that the cover 76 is a housing having small height. The housing by Bologna et al is a carriage (chassis) 34, as it was stated in the last rejection on page 5, line 7.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 9-10, 12, 14, 26, 31, 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bologna et al in view of Hirano et al.

Bologna et al teach a computing device 30, comprising a housing having a height being the smallest dimension of said housing, said housing encasing a power supply, a processor, a motherboard, a hard drive assembly and a baffle 60; and a fan 54 mounted on a support structure 52 within said housing, wherein said support structure . Bologna et al teach furthermore said fan drawing air over at least power supply assembly (col.3, lines 61-63) and said baffle 60, the fan 52 being greater in diameter than the height of said housing (see Fig.3). Bologna et al teach furthermore said computing device housing comprises a cover 76 and a carriage (housing or chassis) 34, said cover and said carriage comprising a plurality of vents. Bologna et al do not teach said fan having a low rotational velocity and a diameter having a size which enable the fan to operate without generating high frequency acoustic noise, said fan being configured to generate acoustic noise less than about 36dB (claims 1 and 26), or of between 28 dB to about 35 dB (claim 36), or between 25 dB to about 30 dB (claim 37). Official Notes is taken that it is well known in the art that cooling capacity, speed, diameter of a fan and the level of produced acoustic noise are functionally interdependent, and that the bigger is diameter

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of a fan the lower must be its speed in order to produce the same amount of air flowing; while the higher is speed of the fan the bigger is noise produced by the fan and air movement. (See Lan et al, US Patent 5,440,450; Emberty et al, US Patent 6,597,972; Antonuccio et al, US Patent 6,141,213; Henderson et al, US Patent 6,526,333; Henderson et al, US Patent 6,247,898; Mardis, US Patent 5,000,079 and Van Hounten, US Patent 4,971,520, each clearly providing adequate teaching about interdependency of fan's diameter, speed and acoustic noise). Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose optimum range of fan characteristics (diameter, speed, height e.g.), since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

4. Claims 7 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bologna et al and Hirano et al as applied to claims above, and further in view of Alfano et al.

Bologna et al and Hirano et al teach all the limitation of the claim except said fan is a variable-speed fan. Alfano et al teach a thermal management system, comprising a variable-speed cooling fan 130. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a variable speed cooling fan as it is shown by Alfano et al in the device by Bologna et al in order to save power and decrease noise in a computing device.

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5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bologna et al and Hirano et al as applied to claims above, and further in view of Schubert et al.

Bologna et al and Hirano et al teach all the limitation of the claim except at least one dampening member disposed between said fan and said support structure to acoustically dampen said fan. Schubert et al teach a fan 10 having a housing 12 fastened to a support structure 50 through a dampening elastic member 56. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a dampening member for a cooling fan as it is shown by Schubert et al in the device by Bologna et al and Hirano et al, in order to acoustically dampen said fan.

Allowable Subject Matter

6. Claims 15-25 are allowed.

7. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Said baffle comprising at least one aperture for allowing air to flow from said fan (claim 13); A computing device comprising a combination of parts including a smart card and a fan drawing air from outside a computer housing and over said smart card,

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wherein said fan is mounted on a support structure, which also provides an EMI protection for a processor.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gough et al (US Patent 6,659,292) teaching a structure of a thin blade server with a fan located horizontally on a top of a processor.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Datskovskiy whose telephone number is (571) 272-2040. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael V Datskovskiy
Primary Examiner
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02/02/2005